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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,100	10/29/2003	Joel Jameson	4000735.0023	7104
34755 7590 04/06/2007 ADAM K. SACHAROFF MUCH SHELIST FREED DENENBERG AMENT&RUBENSTEIN,PC 191 N. WACKER DRIVE SUITE 1800 CHICAGO, IL 60606-1615			EXAMINER BOYCE, ANDRE D	
			ART UNIT 3623	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			04/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/696,100

Applicant(s)

JAMESON, JOEL

Examiner

Andre Boyce

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-12 is/are pending in the application.
- 4a) Of the above claim(s) 5-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/26/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Final office action is in response to Applicant's amendment filed January 11, 2007. Claim 4 has been amended. Claims 5-12 have been added. Claims 3-12 are pending.
2. The previously pending objection to the specification, seen in the office action mailed May 3, 2005 remains.
3. Applicant's arguments filed January 11, 2007 have been fully considered but they are not persuasive.
4. Newly submitted claims 5-12 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Independent claim 5 is directed towards perform iterative proportional fitting, including initializing at least two tarProp vectors with target proportions; updating at least two curProp vectors; updating a first hpWeight vector; updating a second hpWeight vector; utilizing at least one of the following: smart Dimension Selecting; partial Re-weighting; LPFHC strategic storage; DMB strategic storage; and making available for subsequent use at least one weighting element. Independent claim 10 recites a method to identify at least one explanatory variate that is most explanatory of a response variate comprising: determining a benchmark-Distribution for said

response variate; determining a refined-Distribution for each bin of a first possible explanatory variate, said first possible explanatory variate having values that classify into at least two possible bins; calculating a value of knowing said first possible explanatory variate via aggregating results of comparing said refined-Distribution for each bin of said first possible explanatory variate against said benchmark-Distribution for said response variate; and determining a refined-Distribution for each bin of a second possible explanatory variate, said second possible explanatory variate having values that classify into at least two possible bins.

In contrast, original claim 3 recites generating scenarios for subsequent use comprising the following steps: obtaining at least two Weighting EFDs, accessing data contained in a Foundational Table; using an Iterative Proportional Fitting Procedure that resolve non-convergence conflicts between two said Weighting EFDs to determine bin weights and said accessed data contained in said Foundational Table; using said bin weights to determine a first at least one weight for a first at least one row of said Foundational Table; and using said bin weights to determine a second at least one weight for a second at least one row of said Foundational Table. In addition, original claim 4 recites Claim a method to share risk between at least two parties comprising the following steps: accepting an ac-Distribution, comprising at least two bins, each said at least two bins having associated probabilities greater than zero, from each of said at least two parties; and accepting a contract quantity from each of said at least two parties.

5. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 5-12 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horrigan et al (USPN 6,493,682), in view of Barrett et al (US 2004/0088392).

As per claim 3, Horrigan et al disclose a computer-implemented method for generating scenarios (multiple optimizations using different scenarios, column 6, lines 62-65) for subsequent use comprising the following steps: Obtaining at least two Weighting EFDS (i.e., forecasts in the form of distributions, wherein the joint distribution is between returns and order execution rates, column 4, lines 31-33); Accessing data contained in a Foundational Table (i.e., NxN diagonal matrix, where the investor has N securities to transact, column 11, lines 8-10 and 27-31); resolving non-convergence conflicts between two said Weighting EFDS to determine bin weights and said accessed data contained in said Foundational Table (i.e., dependent variables segregated into bins, with the probability of ending up in one of the bins is estimated, column 20, lines 32-33); Using said bin weights to determine a

first at least one weight for a first at least one row of said Foundational Table; Using said bin weights to determine a second at least one weight for a second at least one row of said Foundational Table (i.e., dependent variable may take on 10 values, ranging from 1 to 10, where a 1 corresponds to 0% filled, 2 corresponds to a fill rate $\geq 10\%$, etc., column 20, lines 33-38); Providing said first at least one weight, said second at least one weight, said first at least one row of said Foundational Table, said second at least one row of said Foundational Table as at least two scenarios in a form suitable for an entity that subsequently uses said at least two scenarios (i.e., the scenario may then be estimated using a generalized maximum likelihood estimation technique, column 20, lines 38-40).

Horrigan et al does not disclose using an iterative proportional fitting procedure that resolves non-convergence conflicts. Barrett et al disclose a system that simulates and analyzes movement and interdependencies between entities in a network (§ 0057). Further, Barrett et al disclose determining a proportion of entities in a particular classification (i.e., determining bin weights) using a two-stage iterative proportional fitting procedure (§ 0075). Horrigan et al and Barrett et al are both concerned with obtaining weights in order to aggregate results, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include using an iterative proportional fitting procedure in Horrigan et al, as seen in Barrett et al, as an effective means of determining proportion of entities in each classification, thus making the Horrigan et al system more robust.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horrigan et al (USPN 6,493,682), in view of Gould et al (USPN 5,966,700).

As per claim 4, Horrigan et al disclose a computer-implemented method to share risk between at least two parties (i.e., determination of whether or not to place an order using a risk averse investor's expected utility maximization, column 4, lines 54-57) comprising the following steps: accepting an ac-Distribution (i.e., joint distribution, column 4, lines 31-33), comprising at least two bins, each said at least two bins having associated probabilities greater than zero (i.e., dependent variables segregated into bins, with the probability of ending up in one of the bins is estimated, including greater than 0% but less than 10% and greater than or equal to 10% but less than 20% column 20, lines 32-38); using at least two bins from said at least two parties (i.e., dependent variables segregated into bins), a logarithmic numeric transformation (e.g., return to an executed purchase order, column 7, lines 13-20), and said accepted contract quantities (i.e., amount to trade) to determine a PayoffMatrix comprising at least two rows and at least two columns (i.e., NxN diagonal matrix, where the investor has N securities to transact, column 11, lines 8-10 and 27-31); determining which of said at least two bins subsequently manifests (i.e., probability of ending up in a bin); arranging a transfer of consideration based upon said PayoffMatrix (i.e., determining the scenario using a generalized maximum likelihood estimation technique, column 20, lines 38-40).

Horrigan et al does not explicitly disclose accepting a distribution of two bins from each of said at least two parties and accepting a contract quantity from each of said

at least two parties. Gould et al disclose managing the allocation of risk between a mortgage originator and a funding institute (column 2, lines 21-24), including an agreement between the two parties which defines rates, fees, and total dollar amount (i.e., contract quantity, column 4, lines 20-25). Further, Gould et al disclose determining whether certain rates and fees fall within an acceptable tolerance value of an external fee (i.e., bin separation), and substituting the existing rate and fee schedule for a new one (column 7, lines 28-34). Both Horrigan et al and Gould et al are concerned with optimizing risk aversion, wherein Gould et al disclose allocating risk among parties, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include accepting a distribution, comprising at least two bins, from each of said at least two parties and accepting a contract quantity from each of said at least two parties in Horrigan et al, as seen in Gould et al, as an effective means of distributing the risk among a plurality of investors in Horrigan et al, thus making the system more efficient.

Response to Arguments

9. In the Remarks, with respect to claim 3, Applicant argues that Barrett et al's solution is to restructure the iterative proportional fitting procedure (IPFP) input data, whereas the present invention's solution is to expand the IPFP to directly address possible non-convergence conflicts via partial re-weighting. The Examiner respectfully disagrees. First, it is noted that the features upon which applicant relies (i.e., expand the IPFP to directly address possible non-convergence conflicts via

partial re-weighting) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In addition, Barrett et al disclose population generator 80 may use a two-step procedure to modify the IPF routine so that the generator 80 can simultaneously consider all block groups 60 that make up an area (¶ 0099), thus indeed disclosing expanding the IPFP.

In addition, Applicant argues that Horrigan seemingly offers no advancement over the prior art scenario methods. The Examiner submits that Applicant is making conclusory statements without any factual support and that arguments of the Applicant cannot take the place of evidence in the record and does not rebut a prima facie case of obviousness. MPEP §2145.

Applicant also argues that Horrigan's NxN diagonal matrix consists of estimated expected asset returns while the foundational table consists of observational data. The Examiner submits that Horrigan's NxN diagonal matrix is not precluded from teaching Applicant's method claim, which is silent on the type of data contained in the foundational table. Lastly, with respect to claim 3, Applicant argues that Horrigan fails to mention IPFP and is not germane to the consideration of the present invention's improved IPFP. The Examiner submits Barrett et al as disclosing IPFP, as discussed above.

With respect to claim 4, Applicant argues that Horrigan does not regard sharing between two parties, and does not directly use a logarithmic function to determine

payoffs. The Examiner respectfully disagrees. Horrigan discloses determination of whether or not to place an order using a risk averse investor's expected utility maximization (column 4, lines 54-57), wherein the risk is shared between the investor and the broker (column 5, lines 10-35). In addition, Horrigan discloses return to an executed purchase order (column 7, lines 13-20), using a logarithmic function.

In addition, Applicant argues that neither Gould et al nor Horrigan disclose accepting an ac-Distribution, comprising at least two bins, each said at least two bins having associated probabilities greater than zero, and accepting a distribution of two bins from each of said at least two parties and accepting a contract quantity from each of said at least two parties. The Examiner respectfully disagrees and submits that Horrigan discloses accepting an ac-Distribution (i.e., joint distribution, column 4, lines 31-33), comprising at least two bins, each said at least two bins having associated probabilities greater than zero (i.e., dependent variables segregated into bins, with the probability of ending up in one of the bins is estimated, including greater than 0% but less than 10% and greater than or equal to 10% but less than 20% column 20, lines 32-38). In addition, Gould et al disclose managing the allocation of risk between a mortgage originator and a funding institute (column 2, lines 21-24), including an agreement between the two parties which defines rates, fees, and total dollar amount (i.e., contract quantity, column 4, lines 20-25). Further, Gould et al disclose determining whether certain rates and fees fall within an

acceptable tolerance value of an external fee (i.e., bin separation), and substituting the existing rate and fee schedule for a new one (column 7, lines 28-34).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (571) 272-6726. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

adb
April 2, 2007


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